

Name(s) of Risk Team Members: P. Cirnigliaro, A. Etkin, R. Karol, E. Lessard, J. Maraviglia, D. Passarello, A. Piper, R. Savage, J. Scott, M. Van Essendelft			Point Value → Parameter ↓		1	2	3	4	5				
Area/Facility Description Title: Collider-Accelerator Area/Facility # (if applicable): Area-Wide FRA 16			Occupancy or Use		≤once/year	≤once/month	≤once/week	≤once/shift	>once/shift				
Area/Facility Description: NSRL Area-Wide			Severity		First Aid Only	Medical Treatment	Lost Time	Partial Disability	Death or Permanent Disability				
			Likelihood		Impossible	Unlikely	Possible	Probable	Multiple				
Approved by: <i>E. Lessard</i> Date: 7-19-04 Rev.#: 1													
Reason for Revision (if applicable): FRA number added. Uniform hazard nomenclature added.							Comments:						
					Before Additional Controls					After Additional Controls			
Physical Item or Activity	Hazard(s)	Control(s)	Occupancy A	Severity B	Likelihood C	Risk* AxBxC	Control(s) Added to Reduce Risk		Occupancy A	Severity B	Likelihood C	Risk* AxBxC	% Risk Reduction
Radiation	See facility-wide radiation evaluation	See Facility-Wide Radiation Evaluation											
Dispersible Radiation	Personnel exposure	Training, HP coverage, PPE, engineering controls, administrative controls, work planning, postings, RWP	4	1	3	12							
Electrical	See facility-wide electrical evaluation	See Facility-Wide Electrical Evaluation											
Material Handling	See facility-wide material handling evaluation	See Facility-Wide Material Handling Evaluation											
Housekeeping	See facility-wide housekeeping evaluation	See Facility-Wide Housekeeping Evaluation											
Housekeeping	Biological contamination	Lab specific cleaning procedures, PPE, training, hoods, HEPA filters	4	2	2	16							
Fire	See facility-wide fire evaluation	See Facility-Wide Fire Evaluation											
Water	Pressure	Postings, maintenance, PPE, training, work planning, ASSRC review, procedures, Tier 1 inspections, operations by qualified Water Group staff, LOTO	4	3	2	24							
Water	Temperature	Postings, maintenance, PPE, training, work planning, ASSRC review, procedures, Tier 1 inspections, operations by qualified Water Group staff, LOTO	4	3	2	24							
Cryogenic	Pressure	Postings, maintenance, training, work planning, LOTO, ESRC /ASSRC reviews, procedures, PPE, Tier 1 inspection, pressure testing	4	3	2	24							

Cryogenic	Low temperature	Postings, maintenance, training, work planning, LOTO, ESRC /ASSRC reviews, procedures, PPE, Tier 1 inspection	4	3	2	24					
Pressurized gas	Being struck by an object such as flying debris	Postings, PPE, maintenance, training, work planning, ESRC /ASSRC reviews, procedures, interlock systems, Certification/testing of pressure related equipment, Tier 1 inspections, LOTO, C-AD Chief ME reviews, codes and standards usage	4	3	3	36					
Vacuum	Ear damage	Postings, PPE, maintenance, training, work planning, ASSRC/ESRC reviews, procedures, Tier 1 inspections, Chief ME reviews, vacuum windows covered during handling, use of industry standards, design reviews	4	4	2	32					
Vacuum	Being struck by an object such as flying debris	Postings, PPE, maintenance, training, work planning, ASSRC/ESRC reviews, procedures, Tier 1 inspections, Chief ME reviews, vacuum windows covered during handling, , use of industry standards, design reviews	4	4	2	32					
Still for Distilled Water	Contact with temperature – extremes that result in such injuries as burns	Postings, barriers, maintenance, training, work planning, PPE, procedures, Tier 1 inspections, design reviews, ASSRC reviews, LOTO	4	2	2	16					
Lasers	Eye damage	Barriers, interlock systems, postings, training, LSO review, work planning, PPE, procedures, Tier 1 inspections, warning systems	4	2	2	16					
Magnetic Field	Adverse mechanical force exerted on ferromagnetic objects and or to electronic/medical implants.	Barriers, warning systems, postings, training, ASSRC review, work planning, procedures, Tier 1 inspections, magnetic safety reviews, medical exams	4	4	2	32					
Remotely Operated Equipment	Becoming caught in or compressed by equipment	Postings, barriers, guards, maintenance, training, work planning, procedures, Tier 1 inspections, ASSRC / ESRC reviews, LOTO	4	3	2	24					
Chemicals	Personnel exposure	Postings, barriers, PPE, maintenance, training, work planning, procedures, engineering controls, Tier 1 inspections, CMS, MSDS	3	2	2	12					
Chemicals - isoflurane	Personnel exposure	Training, ESH testing, engineering controls, administrative controls, work planning. EMTs, authorized entry only	3	2	2	12					
Cell and tissue manipulation	Being struck against an object, such as sharps	Training, engineering controls, administrative controls, work planning, ESRC and IRB review, spill controls, PPE	3	2	2	12					
Medical waste handling	Being struck against an object, such as sharps	Training, engineering controls, administrative controls, work planning, ESRC and IACUC review, PPE	3	2	2	12					
Animal	Bites and scratches	Training, engineering controls, administrative controls, work planning, ESRC and IAUC review, PPE	3	1	3	18					
Further Description of Controls Added to Reduce Risk:											
*Risk:	0 to 20	21 to 40	41-60				61 to 80			81 or greater	
	Negligible	Acceptable	Moderate				Substantial			Intolerable	